

Applicant : Richard M. Broglie et al.
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Attorney's Docket No.: 07148-
025003 / CGL99/0008US04

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-22. (Canceled)

23. (Currently Amended) A method for increasing the oleic acid content in plant seeds, comprising the steps of:

a) introducing a recombinant nucleic acid construct into a plant, said construct comprising at least one seed-specific regulatory sequence operably linked in sense orientation to a full length delta-12 fatty acid desaturase coding sequence, wherein said sequence encodes a delta-12 fatty acid desaturase protein having a substitution of a Lys residue for Asp or Glu in an amino acid region selected from the group consisting of His-Glu-Cys-Gly-His (SEQ ID NO:53), His-Asp-Cys-Gly-His (SEQ ID NO:55), ~~or~~ and His-Asp-Cys-Ala-His (SEQ ID NO:54).

b) obtaining progeny from said plant, said progeny producing said seeds having an oleic acid content of from about ~~69% to about 90%~~ 72.5% to about 78.6%.

24-28. (Canceled)

29. (Currently Amended) A recombinant nucleic acid construct effective for increasing oleic acid content when expressed in seeds, said construct comprising at least one seed-specific regulatory sequence operably linked in sense orientation to a delta-12 fatty acid desaturase coding sequence encoding a delta-12 fatty acid desaturase gene product having at least one mutation which renders said desaturase gene product non-functional, said mutation being the substitution of a Lys residue for Asp ~~or Glu~~ in an amino acid region selected from the group consisting of ~~His-Glu-Cys-Gly-His (SEQ ID NO:53)~~, His-Asp-Cys-Gly-His (SEQ ID NO:55), ~~or~~ and His-Asp-Cys-Ala-His (SEQ ID NO:54).

30-36. (Canceled)

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37. (Currently Amended) The method of Claim 23, wherein said ~~mutation~~
substitution is in a ~~Ala-His-Glu-Cys-Gly-His (SEQ ID NO:23)~~ His-Glu-Cys-Gly-His (SEQ ID
NO:53) amino acid region.

38-48. (Canceled)

49. (Previously Presented) The method of claim 23, wherein said plant is soybean.

50. (Previously Presented) The method of claim 23, wherein said plant is rapeseed.

51. (Previously Presented) The method of claim 23, wherein said plant is cotton.

52. (Previously Presented) The method of claim 23, wherein said plant is corn.

53. (Previously Presented) The method of claim 23, wherein said plant is safflower.

54. (Previously Presented) The method of claim 23, wherein said seed-specific
regulatory sequence is a bean β -phaseolin promoter.

55. (Previously Presented) The method of claim 23, wherein said seed-specific
regulatory sequence is an α subunit of soybean β -conglycinin promoter.

56. (Previously Presented) The method of claim 23, wherein said seed-specific
regulatory sequence is maize 18 kd oleosin promoter.

57. (Previously Presented) The method of claim 23, wherein said seed-specific
regulatory sequence is maize 15 kd zein promoter.

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58. (Previously Presented) The method of claim 23, wherein said seed-specific regulatory sequence is a *Brassica* napin promoter.

59. (Canceled)

60. (New) The method of claim 23, wherein said seeds have a linoleic acid content of about 6.4% to about 10.6%.

61. (New) The method of claim 23, wherein said seeds have an α -linolenic acid content of about 4.5% to about 6.5%.